

Effective Game Based Citizenship Education in the Age of new Media

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Abstract: Educational systems worldwide are being challenged to respond effectively to the digital revolution and its implications for learning in the 21st century. In the present new media age, educational reforms are desperately needed to support more open and flexible structures of on-demand learning that equip students with competencies required in a globalized and multicultural world. Game-based learning represents one pathway to educational reform through its emphasis on performance. In this paper we describe the Statecraft X game-based learning program that blends performative game-based learning with dialogic pedagogy in the context of citizenship education. The Statecraft X curriculum was designed with the understanding that a digital game on its own does not necessarily lead to meaningful student learning. Rather, it is the students together with their peers and aided by their teacher who must work together to make meaning of their in-game experiences and connect these experiences to real-world events and issues through thoughtful reflection. With a view to addressing widespread shortcomings of citizenship education that reduce the curriculum to learning *about* citizenship, the Statecraft X game, played on Apple iPhones, provides students with a first person experience of governance by allowing them to take on the role of governors and thus to enact governance. Central to the SCX program is its dialogic pedagogy where teachers facilitate meaningful conversations among students and advance their understanding of citizenship and governance. In this paper, we report an implementation of the Statecraft X curriculum in a Social Studies class attended by 42 15-year-olds attending a secondary school in Singapore. Students' understanding of governance and citizenship was assessed by means of an essay that students attempted at the end of the program. Students' performance in the essay was compared with a comparable control group taught the same topic by traditional method. The results indicate that students of the intervention class outperformed the control class students. Our findings suggest that the Statecraft X curriculum has efficacy in achieving the desired curricular learning outcomes. These findings have implications for school leaders, teachers, and students with respect to introducing and integrating game-based learning in regular classrooms.

Keywords: citizenship education, game-based learning, dialogic pedagogy, new media, learning outcomes

1. Introduction

The 21st century is a time of new media propagation. With the speed and growth of digital access in both developed and developing nations, youths are now increasingly connected through open-ended platforms. Education policy makers increasingly recognize that it is in their interest to address these developments in order to sustain social stability and achieve progress. To allow educators to better meet the changing needs of their students, tools that effectively integrate new media, such as digital games, and curriculum would be most helpful. Leveraging the attributes of interactivity, play, immersion, and rich experience, digital technologies can make a significant contribution to 21st century learning.

The use of digital games for teaching and learning is today an important field of research in its own right. In the past decade or more, much has been written about the educational potential of games for learning (Barab et al., 2009; Gee, 2003; Shaffer, 2006). Proponents of game-based learning point to its role in supporting collaboration, problem solving, communication, and the 21st century skills needed by students. Illuminating the potential of games, Squire (2005) explains that games provide ways of seeing and understanding problems and creates opportunities to help students realise the complexity of the real world. This affordance of digital games has been quite successfully used for subjects such as science, mathematics, and languages. However, research related to the use of digital games for topics in social studies has been limited due to the open-ended nature of the subject.

Globally, citizenship education is one such complex topic that curricula find difficult to handle. Good citizenship cannot be taught; it has to be pondered over, experienced, and practiced (Sim & Print, 2005). Consequently, educating for effective citizenship remains a largely elusive goal in schools. All too often, schools only educate students *about* citizenship. This outcome does not translate into the dispositions and capacities for active citizenship widely sought in students' post-school years (Selwyn,

2006). Consequently, research evidence suggests that mature democracies face declining rates of civic participation (Banaji & Buckingham, 2010).

Notwithstanding, Kahne, Middaugh, and Evans (2009) report that teens with civic gaming experiences, for instance, playing games that simulate government processes or playing games that deal with social and moral issues, report much higher levels of civic and political engagement than those without these kinds of experiences. They further argue that educators should exploit the civic possibilities of games in curricula and in the classroom. They suggest that “[s]ocial studies educators . . . might be interested in using a game like *Democracy* in a government class. *Democracy* is a multidimensional political simulation in which players respond to varied constituencies, shape policies, and interpret data on approval ratings in an effort to win reelection” (p. 52). Raphael et al. (2010) echo this enthusiasm and advocate using games to advance civic learning. They articulate a conceptual framework and agenda for research and the design of games. They hypothesize that civic games can help players make connections between individual actions and larger social structures and also to link and contrast ethical reasoning and expedient reasoning in the civic action space.

We are unaware of any significant use of digital games in social studies. Well-known work of Barab and Dede, based on the multi-user virtual environments *Quest Atlantis* and *River City*, is oriented toward science education. The only relevant known work is by Lim (2008). Students are positioned as global citizens in *Quest Atlantis*. However, they are required to solve quests related to mathematics, English, and science. Consequently, citizenship and social studies are not the focus.

2. Designing the *Statecraft X* game

In Singapore’s education system, citizenship education is addressed via the social studies curriculum. Our research efforts in the classroom with the *Statecraft X* curriculum take place in the context of increasing recognition being given to the role of social studies in character development and nation building. While we strongly resonate with the suggestion by Kahne et al. (2009) to use digital games for social studies education, especially as it relates to the topic of governance, we are also sensitive to Poblocki’s (2002) critique against “bio-cultural imperialism” that may be embedded in digital games developed in North America. As cultural artifacts, digital games, especially commercial off-the-shelf games, always carry the potential for cultural bias.

In designing and developing our own educational game, *Statecraft X*, we attempted to minimize this risk by locating the game within a medieval fantasy kingdom. The medieval element unavoidably retains early European cultural associations. Although this is so, the likeness is limited to the beings of unique ethnicity in the game—namely the, elves, dwarves, trolls, and (medieval looking) humans—which are distinctively Western creations. The setting and backstory of *Statecraft X*, however, which features a peasant rising to become a king, and the in-game governor’s focus on social, industrial, and military development, is a cultural phenomenon applicable to any civilization or modern political entity. However, unlike Sid Meier’s portrayal of the clash of civilizations as historical “truth”—the target of Poblocki’s critique—the fantasy element ameliorates the cultural imperialism of grand narratives of human history created in the West. Thus, we sought to maximize the portability of our game’s adoption across national contexts. Furthermore, extant historical narratives also suggest that the lines of dispute that give rise to friction between nations often occur by virtue of differences among cultures and between civilizations (Huntington, 1993). Mitigating the potential for such conflicts should then be a prerogative, even in the design of games; given the socialized, empowering influence digital games are growing to have.

In the section that follows, we describe the theoretical underpinnings of the *Statecraft X* learning program which we believe is much suited for the new media context. The *Statecraft X* learning program comprises the game and a set of associated curriculum materials. We also illustrate the multiplayer mobile game *Statecraft X*. We then report an empirical study of the enactment of the *Statecraft X* curriculum in the classroom focusing primarily on student learning outcomes.

3. The *Statecraft X* learning program

The digital revolution and its concomitant consequences places tremendous pressure on traditional teaching and learning practices in the world of education. Now no amount of ‘learning to appeal to an all-knowing textbook alone’ can furnish students with the attitudes, values, beliefs, and knowledge needed to become good citizens. The *Statecraft X* learning program therefore aims to complement

textbook use with an authentic educational game, together with curricular materials, that are mapped to the unit on Citizenship and Governance in the Social Studies curriculum for 15-year-olds.

Compared to traditional learning environments that seek to “school” students in knowledge of “what is right,” the Statecraft X curriculum creates room for negotiation and the challenging of normative assumptions (Ito et al., 2009a) to appeal to students for whom engagement with new media is a way of life. Our intention is for such a curriculum to allow youth to establish their personal learning focus, motivated by their own interests and social environments, to emerge from the educational platform provided (Ito et al., 2009b). Mindful of the intertwining of gaming and everyday living in the lives of 21st century students, our own game design sought to allow players to steer the unfolding narrative in the game (Williams, 2007). This element of control in the game facilitated players’ construction of rich personal game narratives and gave them a strong sense of autonomy.

Taking into account considerations for making the game and the accompanying curricular materials appealing to students, as well as our own educational values and philosophical commitments, we chose an inquiry approach to citizenship education. This approach is one of the approaches (others being social studies as citizenship transmission and, social studies taught as social science) in defining social studies curriculum by Barr, Barth, and Shermis (1977). This approach towards social studies as reflective inquiry aligned best with our pedagogical goals and objectives. We thus designed a curriculum based on inquiry learning (Dewey, 1938/1991).

3.1 Theoretical underpinnings of the Statecraft X learning program

In prior work, we proposed the performance–play–dialog (PPD) design model for game-based learning (Chee, 2011). Drawing upon this model, we view learning through the theoretical lens of performance (Bell, 2008; Schechner, 2003). As Carlson (2004) argues, performance is distinguished by three critical features: (1) patterned behavior entailing constant doing and redoing, (2) self-consciousness of the doing and redoing, and (3) a double consciousness of actual behavior compared against ideal behavior. From this perspective, learning through performance engages the learner in reflection, and it is deeply reflexive. It is a mode of learning that any concert pianist or competitive swimmer understands. Performance requires constant self-interrogation of how well one is doing compared with an ideal benchmark. By this means, performers improve their performance and thereby learn. Performance is inherently value laden, and it is deeply intertwined with the development of personal identity. Through performance-oriented learning, a person develops a keen sense of self-identity. Jarvis (2009) expresses this idea eloquently: “Learning to be a person in society: Learning to be me.”

Digital games such as MMORPGs allow players to naturally re-orientate learning away from learning *about* to learning *to be* (a type of person) (Thomas & Brown, 2007). This reorientation is very productive for citizenship education. Its success, or otherwise, is wholly dependent on whether an individual has learned to enact active and responsible citizenship. In the day-to-day affairs of nations, governments, civic organizations, and citizens, performing as a citizen is what counts. Knowing about citizenship has little value. In the PPD design model, performance is depicted as a developmental trajectory wherein a student learns to become an active citizen (see Figure 1). Performance, in turn, is cultivated through play and dialog, mirroring Dewey’s action–reflection dialectic (J. Dewey, 1910/1981; R. E. Dewey, 1977). Building on Shaffer’s (2006) framework that views game-based learning in terms of developing skills, knowledge, identity, values, and epistemology—that is, SKIVE—the PPD model further raises the standard of desired learning outcomes by requiring that knowledge and skills be integrated and leveled up to a seamless capacity to act and speak competently in ways befitting the enaction of a human role. We refer to this standard of learning outcome as VIP: values, identity, and performance. Via performative learning, students appropriate a personal understanding of citizenship and develop a citizen self-identity. To the extent that learning has been effective, the learner will perform in an informed and responsible manner when faced with problematic real world situations, such as being faced with a riotous crowd (depicted in the top right of Figure 1). Will the learner act in a manner becoming of a good citizen, or will he not?

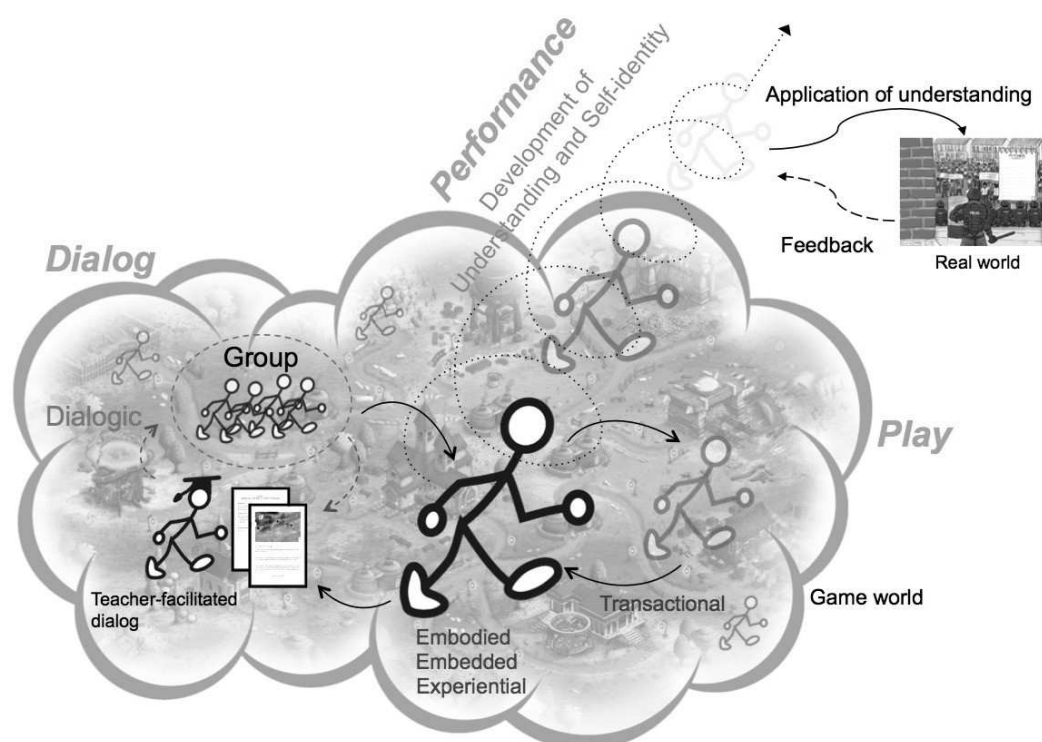


Figure 1: The performance–play–dialog model of the Statecraft X learning program

In the PPD model, the construct play is instantiated by students playing *Statecraft X*. As a multiplayer client-server game, the game state is maintained on the server. The state of the game is persistent and represented by the “game cloud” shown in Figure 1. The game runs continuously regardless of whether any players are logged in. In-game events such as epidemics, bandit attacks, and invasion by a neighboring kingdom are triggered at times predetermined by the game administrator. A typical game session supports 20 concurrent players. They are divided into four factions, where a faction represents members who share an ideological affinity. The duration of each game session is typically three weeks. Epistemologically, the significance of engaging in play is that learning *to be* is experienced in the first person because the player takes the role of an agent or protagonist in the game. This first person orientation contrasts with traditional learning *about* where the learner is positioned in the third person with respect to what is being learned. Being engaged in an action space, learning is transactional (Garrison, 2001). It is further embodied through role taking (Mead, 1934), embedded through immersion into a virtual game world, and experiential in nature (Dewey, 1925/1988). As a mobile game played on a personal device, the mode of play is one that requires continuous partial divided attention. Students weave game play into their everyday activities, logging in from time to time to execute several actions, then logging out of the game.

As part of an inquiry curriculum, engagement in dialog is critical because it prompts reflection and sense making. In our design of the Statecraft X curriculum, dialog takes place in the classroom during scheduled lesson time. It is facilitated by a teacher. The construct of dialog draws upon the writings of Bakhtin (1981). Dialog has little in common with discussion, a word whose root is more closely related to the idea of conducting a judicial examination (Senge, 1990). Instead, “[e]ntering into dialog entails taking a stance. It is the means through which we develop openness to others different from ourselves and relate to people and ideas that remain separate and distinct from our own. Dialog is the means through which new ideas are born” (Chee, 2011). Through engaging students in dialog, we seek to cultivate a culture of expansive conversations where ideas are increasingly connected, juxtaposed, interrogated, and critically evaluated so that students can achieve deeper meaning making and understanding.

3.2 The *Statecraft X* game

The *Statecraft X* game supports students learning the topic of governance in the social studies curriculum for 15-year-old students. Through the PPD model, students learn governance and its relation to citizenship by *enacting* governorship, that is, by performing governance. During dialog,

teachers facilitate conversations and help students to “play between worlds” by making pertinent connections between issues arising in the game world and in the real world. They encourage students to be reflexive in their learning, directing them to the actions that they took in playing the game and thinking through the ensuing consequences. The game is typically played on Apple iPhones. Figure 2 shows a zoomed in view of part of a town in the game world of Velar. The buildings shown are the barracks on the left and the embassy (seen only in the capital city) on the right. Game resources are shown in the resource bar at the top of the screen. Students are assigned the role of town governor in the game. When the game begins, each student is the governor of one town. As students play the game, they seek to become the governor of more towns so as to expand their influence over an increasing number of the Velar citizens. In so doing, they also advance the cause of the faction they belong to. Akin to political parties, factions are bound together by ideologies of good governance. Students thus compete with one another in the game, as well as ideologically, with a view to eventually occupying the capital city of Velar and to governing the entire kingdom. Using a functionally equivalent Web version, the *Statecraft X* game can also be played on tablet devices such as the Apple iPad. Figure 3 illustrates the game’s world map, which allows players to traverse between different towns in Velar, on an Apple iPad.

Compared with most commercial games intended primarily to entertain, and secondarily, if at all, to educate, *Statecraft X* is fairly unique. Within the genre of medieval fantasy games, role-playing games, such as the *Elder Scrolls* series (Bethesda Softworks, 2012), can serve as creative stimuli with open-ended worlds for exploration and puzzle solving. Unlike *Statecraft X*, however, there is no complex network of socialization which is key to the players’ ability to perform and learn reflexively. Games from the *Ultima* series (Moby Games, 2012) are disadvantaged by their emphasis on the virtue system, where winning requires a one-track sense of virtuousness exhibited in gameplay decisions. *Statecraft X* avoids this problem because governors are given the liberty to act on a continuum of value systems—from that of a liberal, capitalist governor, to that of a tyrannical, authoritarian ruler—in a manner reflective of the realities of real world governance. Even within the scope of *Civilization* and its sequels (Firefly Studios, 2012), the identity of a civilization’s ruler is restricted to a variety of pre-designed character choices, each with its own specialized traits that influence the outcome of the game. Identity, in the case of *Statecraft X*, is left open with the intention that players themselves should construct their identities as they deem appropriate through personal interactions between themselves while gaming, during dialogic classroom sessions, and the diversity of interactions that they participate in within the physical world.



Figure 2: Zoomed in partial view of a town showing barracks and embassy

As students play *Statecraft X*, many challenges come their way. Apart from having to meet the basic needs of citizens in the town, such as needs for food, water, and housing, they must also develop and sustain a thriving economy. In order to do so, they must trade with neighboring towns to acquire the resources needed to build factories, healing centers, and army barracks. These resources comprise wood and ore. By design, however, each town can produce wood or ore but not both. If citizens’ needs are not adequately met, they become unhappy. They may even leave the player’s town in search of a better life in another town. Trying to increase a town’s economic wealth tends to take a toll

on citizens' happiness as they are worked harder, paid less, or taxed more highly. As a game, therefore, a complex simulation with multiple embedded interdependencies runs continuously. Outcomes can play out in many different and often unpredictable ways for players. Through careful game balancing, several patterns of play typically emerge. The tension between achieving economic wealth and increasing citizen happiness is one such pattern. These tensions are the triggers for productive dialog. How can the challenges that players experience be dealt with? There are no right answers. There are only better or worse solutions, and these solutions are always contingent on what other players do as well as on game events that players have no control over. Such events include the influx of refugees, epidemics, bandit attacks, and invasion by a neighboring kingdom. Playing the game, students learn that effective governance is a complex challenge. It entails wrestling with conflicting demands and making value-laden trade-offs between alternative courses of action.



Figure 3: View of the game's web-based world map played on a tablet computer

In the new media context, where communicative platforms function on a 24/7 basis, *Statecraft X* intentionally mimics this pattern of exposure for students, given that it is a 24/7 game. By design, it seeks to impress on students that, in the real world, governance is truly a 24/7 affair. Planning ahead is vital because there is an inherent latency (multiple in-game turns) between governor decisions and translation into game world actions. At the same time, governance is a full-time responsibility: governments do not have the luxury of taking a holiday.

4. Method

The empirical study reported in this paper examines the comparative learning outcomes of students who participated in the *Statecraft X* curriculum with those from a control class. The study took place over three weeks in January 2012. Learning outcomes were evaluated on the basis of a summative essay-writing task. As classroom researchers, we observed all classroom enactments of the *Statecraft X* curriculum. We also administered pre-intervention and post-intervention surveys to students in the intervention class. In addition, we conducted post-session interviews with the co0llaborating teachers after all sessions other than the first.

4.1 Subjects

The intervention class comprised 42 high ability students in the Express academic stream of the school where we conducted our research. Twenty-seven students were boys (64%) and 15 were girls (36%). On average, students were 15 years old. The control class consisted of 42 students from a comparable high-ability class. Nineteen of the control class students were boys (45%) and 23 were

girls (55%). Students belonging to the control class were taught by a separate social studies teacher using traditional classroom instruction.

4.2 Materials

Students from the intervention class played the *Statecraft X* game on Apple iPhones. The phones were loaned to them for the purpose of the research project. The students responded to an attitudinal survey on citizenship and governance at the commencement of the intervention and at the close. During the intervention, they were required to complete two online reflection posts that sought their responses to online source materials—one focusing on national defense and the other on government allocation of the national budget—and the underlying reasons for their responses. Students in the control class were taught using presentation slides. They also took notes and completed worksheets on the subject during curriculum time. A common summative assessment, lasting 40 min, was administered to students from both classes after the research intervention concluded. The assessment question stated:

Singapore has a number of well-known political blog sites such as *mrbrown*, *Temasek Review*, and *The Online Citizen*.

You are a concerned, responsible, and active Singapore citizen. You wish to set up your own blog site to address issues of deep personal concern. These issues may relate to sustaining economic prosperity, maintaining racial harmony, managing immigration, encouraging international trade, establishing strong national defense, handling diplomatic relations, and developing a global citizenry that remains rooted locally.

You are preparing the very first entry on your blog site. In preparation for this entry, write an essay of about 300 words to identify 3 or 4 issues that you are most concerned about, to express your views concerning these issues, and to suggest how the Singapore government should deal with the issues that you identify. To create a positive impact, make your statement as balanced, persuasive, and well supported by evidence as possible.

4.3 Procedure

The *Statecraft X* curriculum extended over three weeks, with two one-hour classroom sessions held each week. Game play took place entirely outside of classroom time. Students played the game on weekdays between 6:00–8:00 a.m. and between 2:30–10:00 p.m. On Saturdays, they were allowed to play the game from 6:00 a.m. to 11:00 p.m. Game play was not permitted on Sundays. This condition was imposed by the school administration. Access to the game was controlled by the server. Members of the research team led the first classroom session. They shared the backstory of the game and oriented students to the game interface. They also administered the pretest survey. The next four sessions comprised dialogic classroom sessions where students conversed about their in-game experiences and challenges. For the purposes of game play and dialog, the students were divided into two groups of 21 students each. The two participating teachers facilitated the dialogic conversations, with each teacher taking charge over one group of students. Teachers supported the students by helping them to make connections between the ideas contributed and to distill the ideas from the level of game experience to that of concepts, themes, and “big ideas.” In the process, students addressed the challenges of governance, moving fluidly between game-triggered experiences, textbook ideas, and personal knowledge and experience. They also listened critically to suggestions proposed by classmates to deal with the challenges faced, and they interrogated the suggestions of others as and when they saw fit. In the final class session, students delivered a speech to make a case for why they were best qualified to be elected to the governing council of Velar that would help govern the kingdom until the young heir to the throne came of age to be king, given the demise of his father. Following through with role-play induced by the backstory of the game and based on the quality of speech delivered, four students from each group were finally chosen as worthy members of the governing council. This selection represents an individual “win” outcome for the selected students. At the same time, the faction that attained the highest average score between economic wealth and citizen happiness was regarded as winners of the game. This outcome represents a group “win” condition.

5. Data analysis and results

Students' essays were evaluated on the basis of a four-level rubric (see Appendix) encompassing four criteria: (1) multiple viewpoints with balanced, coherent perspective, (2) proposed solutions supported by strong evidence and argumentation, (3) disposition of active citizen, and (4) persuasiveness. To ensure objectivity in the evaluation, 20 scripts out of the total of 84 (24%), were first randomly selected and evaluated on each criterion by two qualified independent assessors: the second author, who holds a doctorate in education, and a history and social studies schoolteacher teaching these subjects at the upper secondary level. The measures of inter-rater agreement based on Cohen's kappa were 0.78, 0.70, 0.81, and 0.83 on criteria (1) to (4) respectively, indicating a substantial level of agreement. On the strength of this outcome, the second author proceeded to evaluate the remaining essays. Figure 4 shows samples of students' work from the control and intervention group. Notice the difference in the tone and content of the two essays where students write on Singapore's economic situation.

<p>(Control group)</p> <p>Nowadays, there is an economic downturn and price of everything is increasing, such as daily necessities like oil and water. I feel that the government is not doing enough to sustain economic prosperity in Singapore. Though the Integrated Resorts have been built to attract foreign talent and encouraging international trade, it is not enough, and citizens are still suffering from poor economy.</p>	<p>(Intervention group)</p> <p>The third and the final issue that I will be talking about will be Singapore's economy. Yes. I agree that Singapore's economy is above the world's average and is prospering. But in a way I believe Singapore's economy is still not stable enough and still relies on other countries for much work of her economy and trading. When the other countries that work together with Singapore economically fall Singapore will be greatly affected too. Therefore, I believe Singapore should rely on herself, and be a manufacturing country like what China is currently doing right now. At the same time, reaching out to every citizen and make sure that the citizens are not suffering in any debts which will affect the economy of Singapore. By protecting the citizens of Singapore, Singapore herself is also protecting herself. Somewhat, Singapore should always be ready for any form of crisis.</p>
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Figure 4: Sample of students' writing from the Control and Intervention groups

We used SPSS to run our data analysis. The results are summarized in Table 1 below.

Table 1: Significance test of difference between intervention and control classes on four criteria

Criterion	Group	N	Mean	SD	t	df	p
Multiple viewpoints	Intervention	42	2.74	.734	6.83	80	< .001
	Control	40	1.73	.599			
Proposed solutions	Intervention	42	2.21	.782	5.48	80	< .001
	Control	40	1.38	.586			
Disposition	Intervention	42	2.62	.697	5.22	80	< .001
	Control	40	1.80	.723			
Persuasiveness	Intervention	42	2.55	.772	5.17	80	< .001
	Control	40	1.65	.802			

Table 1 shows that, on all four essay criteria, students from the intervention group outperformed those in the control group. Their mean rubric scores, coded from 1 (lowest) to 4 (highest) based on the level of attainment on each criterion, were higher than those of the control students. The *t*-tests show that the hypothesis of equality of means between the two groups is rejected for each criterion.

6. Discussion and Implications

In evaluating the student essays, we were struck by the extent to which essays of the intervention group students conveyed a strong sense of personal voice, awareness about current global and local issues, and an agency to act to achieve changes sought by the students. In contrast, essays of control group students showed a tendency to reproduce what was contained in the social studies textbook on the topic being studied, namely, the principles of governance. Some students from this group felt a sense of dislocation when attempting to respond to the essay question because they had prepared for this assessment by memorizing content. Excerpts of students' essays are shown in Figure 4. As a curriculum innovation, the *Statecraft X* learning program signals a significant change in valuation applied to traditional student learning practices and outcomes. An inquiry curriculum represents a critically important pedagogical shift requiring a concomitant shift in classroom cultural toward critical thinking, questioning, and dialog.

Our collaborating teachers had the benefit of a professional development program held about a month and a half prior to the commencement of the research intervention. This program comprised face-to-face meetings with the teachers for two days during which the theoretical and pedagogical underpinnings of the *Statecraft X* curriculum were discussed. Teachers were furnished with a set of relevant readings prior to the commencement of the meetings. As part of the training, teachers played the game in their own time over the duration of the development program, using an iPhone loaned to them by the research team. This activity was instrumental in preparing them to teach the curriculum in class. Notwithstanding, it could not entirely equip them for what was to come because the training program afforded them no opportunity to teach the curriculum with real students. For this reason, as part of continuing professional development, we, as researchers, were present to further guide teachers. Subsequent to the observation of each lesson, we employed a structured interview technique to prompt teachers to reflect on their practice. We suggested ways to deal with the challenges that they surfaced for discussion. This handholding constitutes a critical part of our efforts to help teachers level up their capacity to enact a performance oriented game-based learning pedagogy in the classroom.

On their part, our collaborating teachers invested themselves in the process of learning to enact the *Statecraft X* curriculum in the classroom. We observed a genuine desire to master the pedagogy, and the teachers were open-minded and receptive to the feedback that we offered. Being their first attempt to teach using a game-based learning pedagogy, their journey was not always smooth. Notwithstanding, the teachers' perseverance paid off, and they felt that their efforts were worthwhile at the conclusion of the intervention. Another critical factor at play in the research intervention was the full support of the school principal and the humanities head of department in the enterprise. The head of department invested the time to be present at all the classroom sessions so that she could personally observe the enactment of the curriculum and support the development of the teachers under her charge. By participating in this manner, the head of department also developed a deep personal understanding of *Statecraft X*'s game-based learning pedagogy, and she expressed her desire to extend the curriculum innovation to all classes in the same level in the next school year.

The outcomes of our work demonstrate that the *Statecraft X* game used in conjunction with a dialogic pedagogy has the potential to steer students toward a new media culture of learning where increased interactivity and openness to ideas are vital. The curriculum also necessitates transforming of teachers' roles and practices from didactic classroom teaching to active facilitation, where the game provides a platform for students to enact governance to understand the relation between governance and citizenship. The teachers' role is crucial for making pertinent connections between students' experiences in the game world and the real world. This shift in role is necessary for alignment to the increasing importance that new media will play in 21st century classrooms.

Our study has implications for school leaders, teachers, and students. The *Statecraft X* game and curriculum were designed to develop key competencies including citizenship and lifelong learning skills for the 21st century. Any attempt to integrate an innovative pedagogy in the regular classroom teaching needs system support for it to be sustained. School leaders must be willing to provide this much needed system support. Over the course of our *Statecraft X* interventions in different schools, we observed that the program was most successful in the school where the subject head of department had taken a personal interest in the intervention. The students in this school benefitted markedly in their understanding of the concepts of governance and citizenship, and the participating

teachers developed the skills needed to facilitate meaningful classroom dialog. School leaders' support is also required to provide teachers with the time and space to reflect on their evolving teaching practice. This support can take the form of reduced teaching contact time as well as moral and professional support.

In relation to teachers, there is often interest in adopting the use of games. However, this interest is typically clouded by viewing games as a resource to teach with so as to garner student interest. With this mindset, the power of using games as a tool to promote complex problem solving and deep reflection is lost, and the tool becomes domesticated into the traditional instructional agenda. To harness authentic educational games effectively, teachers need to master the skills of dialogic facilitation, learn to 'let go of control' in the classroom to encourage productive student talk, and be comfortable with having students think and work things out for themselves. Our research with the *Statecraft X* curriculum suggests that, on average, teachers need two rounds on intervention experience to effectively learn the ropes of the new practice. The challenges that teachers face can be overcome by professional development support that helps them to be reflective and reflexive of their practices. Receptiveness to innovative pedagogical ideas is vital for success.

During our intervention work in the schools, we realized that students also need to modify their expectations concerning learning. Some students complained of the game being "too hard to play", indicating an unwillingness to invest the time and effort required in game play. Teachers need to help their students make the transition from traditional learning modes to more active involvement in the learning process. Most students in our study could quickly adapt to the changes. As with any new innovative pedagogy, gaining parental support is an important part of the process. Widespread misconceptions about games can stall efforts in innovation unless one is prepared to address them. Parents need to be regularly informed of the purpose, scope, and outcomes of the project.

The *Statecraft X* curriculum and its pedagogy exemplifies emerging interest in meaningful learning and enaction. Building on Dewey's seminal idea on the transactional relation of interdependence between doing and knowing, the curriculum offers one instantiation of this vital idea. For any innovative curriculum to realize its full potential, all stake holders need to be receptive to the curriculum's underlying theoretical motivations. They need to recalibrate their goals and be ready to modify their existing thinking and practices, thereby demonstrating commitment to improving extant educational practices in the light of new demands for 21st readiness.

7. Conclusion

In this paper, we have described the need to engage students meaningfully in citizenship education. Existing school curricula need to be revamped to include new and more active platforms for student learning that are aligned to technological advances and changing social needs and values. The *Statecraft X* curriculum has been shown to be efficacious for citizenship education through a performance-oriented game-based learning pedagogy. This paper reported an implementation of the program with 42 students. The students using the *Statecraft X* game complemented by dialogic pedagogy outperformed a comparable control class in a summative essay writing task. Students' essays were evaluated using a rubric consisting of four criteria: multiple viewpoints, proposed solutions, disposition of active citizen, and persuasiveness.

Many attempts at curriculum innovation and educational reform in schools have failed due to the perturbation and dislocation they bring to deeply entrenched classroom teaching practices. A confluence of positive forces at work in the school where we conducted our research allowed the strong empirical results that we reported to emerge. Our experience suggests that it is vital to nurture and orchestrate such positive forces in order to secure the desired educational improvements. Our ongoing research in additional schools and contexts will help us better understand both the positive forces that can be harnessed to enhance teaching practice as well as the negative forces that work to keep it stagnant.

Appendix 1: Statecraft X: Rubrics for summative assessment task (essay): Active citizenship—Governance

Criteria	Level 1	Level 2	Level 3	Level 4
Multiple viewpoints with balanced, coherent perspective	<p>Writing displays little or no knowledge (factual & functional) and understanding of society and governance</p> <p>Writing shows limited viewpoints or none at all</p> <p>The writer seldom reflects on any issue that is raised (or gives only what the textbook says)</p> <p>No solutions are proposed to solve the concerns raised</p>	<p>Writing displays some knowledge and understanding of society and governance based on textbook facts alone</p> <p>Writing shows some viewpoints but with an unclear perspective</p> <p>The writer reflects on the issues raised, but in a limited way</p> <p>Proposed solutions pertain to needs of specific groups within the community</p>	<p>Writing displays clear knowledge and understanding of society and governance, occasionally going beyond the textbook</p> <p>Writing shows a variety of viewpoints, providing a coherent perspective</p> <p>The writer reflects on the issues raised but is not able to interrogate them deeply</p> <p>Proposed solutions pertain to needs of majority of the groups within the community</p>	<p>Writing displays clear knowledge (factual & functional) and understanding of society and governance, going beyond textbook information and ideas</p> <p>Writing shows a variety of viewpoints (social, political, economic) with a coherent and critical perspective</p> <p>The writer reflects on the issues raised and is able to interrogate them deeply</p> <p>Proposed solutions pertain to needs of community as a whole (including specific groups)</p>
Proposed solutions are supported by strong evidence and argumentation [reasons/justifications and warrants for claims are provided]	<p>The writer suggests only one or two solutions, or none at all</p> <p>The writer provides limited reasons, if any, to support any claims made, and these claims are largely invalid</p> <p>No evidence is provided for any assertions made</p>	<p>The writer suggests several solutions, but they are not very effective or practical</p> <p>The writer provides some reasons for the suggested solutions, but they are weak</p> <p>An attempt is made to provide evidence in support of the suggested solutions, but the cited evidence is largely invalid</p>	<p>The writer suggests several solutions that are practical and fairly effective</p> <p>The writer provides several convincing reasons for the suggested solutions</p> <p>Weak but valid evidence is provided to support the suggested solutions</p>	<p>The writer suggests many solutions that are both practical and effective</p> <p>The writer provides many convincing reasons for the suggested solutions</p> <p>Strong and valid evidence is provided to support the suggested solutions</p>
Disposition of active citizen [commitment, passion, agency/willingness to act]	<p>The writer is unclear about the roles and responsibilities of an effective citizen (focuses on self alone)</p> <p>The writer shows very little sense of personal initiative toward taking steps</p>	<p>The writer is somewhat clear about the roles and responsibilities of an effective citizen</p> <p>The writer shows some sense of personal initiative toward taking steps to solve challenges</p>	<p>The writer is clear about the roles and responsibilities of an effective citizen</p> <p>The writer shows a moderate sense of personal initiative toward taking steps to solve challenges</p>	<p>The writer is very clear about the roles and responsibilities of an effective citizen and indicates willingness to take appropriate action</p> <p>The writer consistently shows a large degree of personal initiative</p>

	<p>to solve any challenges faced by the nation</p> <p>The writer shows indifference toward existing events, policies, and social structures (is not concerned enough to play a role in solving a social problem)</p>	<p>faced by the nation</p> <p>The writer shows a little concern about existing events, policies, and social structures but does not challenge them</p>	<p>faced by the nation</p> <p>The writer shows a moderate degree of concern about existing events, policies, and social structures and is willing to challenge them, but does not suggest better alternatives</p>	<p>toward taking steps to solve challenges faced by the nation</p> <p>The writer shows a high degree of concern about existing events, policies, and social structures and is willing to challenge them, suggesting better alternatives (society becomes a priority)</p>
Persuasiveness [cogency, invested, conviction, strong sense of personal voice]	<p>Writing does not indicate anything about the writer's personality</p> <p>The writer is indifferent or has little concern about challenges faced by the nation</p> <p>The writing is verbose with no concrete points made</p>	<p>Writing has to be read very carefully to get an idea of the writer's personality</p> <p>The writer cares about the challenges faced by the nation in a limited way</p> <p>The writing is reasonably focused, but few concrete points are made</p>	<p>Writing provides a fairly clear idea of the writer's personality</p> <p>The writer cares about the challenges faced by the nation</p> <p>The writing is to the point and effectively addresses the main ideas/issues, but better alternatives are rarely suggested</p>	<p>Writing readily provides a clear idea of the writer's personality, especially from the perspective of a concerned citizen</p> <p>The writer cares deeply about the challenges faced by the nation</p> <p>The writing is to the point and effectively addresses the main ideas/issues, with better alternatives suggested frequently</p>

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